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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,036	01/18/2006	Gregory Becker	DC5146 PCT1	7066

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EXAMINER	
HUNG, MING HUNG	
ART UNIT	**PAPER NUMBER**
4158	

NOTIFICATION DATE	DELIVERY MODE
03/19/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents.admin@dowcorning.com

Office Action Summary	Application No.	Applicant(s)	
	10/565,036	BECKER ET AL.	
	Examiner	Art Unit	
	MING HUNG HUNG	4158	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/18/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Preliminary amendment received on 01/18/06 has been entered into record. Claims 1-18 are now pending.

Priority

2. Examiner acknowledged that this application 10/565,036 filed on 01/18/06 claims the benefit of PCT application PCT/US03/23601 filed on 07/28/03, currently pending, which is a continuation in part claiming the benefit of application 09/789,083 filed on 02/20/01.

Specification

3. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-3, 10, 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lansford (US Patent No. 6,362,116 B1) in view of Amako et al. (EP 1 041 117 B1 and Amako hereinafter).

7. As to claims 1 and 2, Lansford discloses a method for controlling photoresist baking process comprising:

(i) applying a negative photoresist to a surface of a substrate to form a film (col. 1, lines 38-40 and 53), (ii) exposing a portion of the film to radiation to produce a partially exposed film having non-exposed regions covering at least a portion of the surface and exposed regions covering the remainder of the surface (col. 1, lines 40-44); (iii) heating the partially exposed film for an amount of time such that the exposed regions are substantially insoluble in a developing solvent and the non-exposed regions are soluble in the developing solvent (col. 1, lines 44-54); (iv) removing the non-exposed regions of the heated film with the developing solvent to form a patterned film (col. 1, lines 51-54); (v) heating the patterned film (col. 1, lines 55-57); and (vi) removing all or a portion of the product of step (v) using an etching solution (col. 1, lines 58-63) [claims 1 and 2].

However, Lansford fails to disclose:

where the negative photoresist is a photopatternable silicon composition comprises: (A) an organopolysiloxane containing an average of at least two silicon-bonded alkenyl groups per molecule, (B) an organosilicon compound containing an average of at least two silicon-bonded hydrogen atoms per molecule in a concentration sufficient to cure the composition, and (C) a catalytic amount of a photoactivated hydrosilylation catalyst [claims 1 and 2].

Nonetheless, these features are well known and would have been an obvious modification of the method disclosed by Lansford, as evidenced by Amako.

Amako discloses a curable organopolysiloxane composition and cured products and unitary bodies obtainable therefrom comprising:

a photopatternable silicon composition ([0015]) comprises: (A) an organopolysiloxane containing an average of at least two silicon-bonded alkenyl groups per molecule ([0016]), (B) an organosilicon compound containing an average of at least two silicon-bonded hydrogen atoms per molecule in a concentration sufficient to cure the composition ([0035]), and (C) a catalytic amount of a photoactivated hydrosilylation catalyst ([0030]) [claims 1 and 2].

Given the teaching of Amako, a person having ordinary skills in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Lansford in view of Amako by employing the well known or conventional features of curable organopolysiloxane composition as the negative photoresist, in order to obtain excellent curability and adhesion to a wide variety substrates.

8. As to claim 3,10, 11 and 18, Lansford discloses a method for controlling photoresist baking process comprising:

where the substrate is active surface (base material 12, Fig. 1A) of a semiconductor wafer (wafer 10, Fig. 1A; col. 1, lines 38-40; Examiner interprets the active surface being a surface compatible to photoresist) [claims 3 and 11];

use of the method for rework, photoresist, or cleaning applications (col. 1, lines 36-38) [claims 10 and 18].

9. Claims 4, 6-8, 12, and 14-16, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lansford in view of Amako as applied to claims 1 and 2, and further in view of Belani (US Patent No. 4,411,735).

Although Lansford in view of Amako discloses substantial features of the invention (see paragraphs above), it fails to disclose:

where the removing step is carried out using an etching solution comprising an organic solvent and a base [claims 4 and 12];

where the organic solvent is selected from a monohydric alcohol, a dihydric alcohol, a monoether, a diether, a polar aprotic solvent, and combinations thereof [claims 6 and 14];

where the base is selected from ammonium hydroxide, cesium hydroxide, potassium hydroxide, sodium hydroxide, and combinations thereof [claims 7 and 15];

where the base is selected from phosphazene, tetraalkyl ammonium hydroxides, and combinations thereof [claims 8 and 16].

Nonetheless, these features are well known and would have been an obvious modification of the method disclosed by Lansford in view of Amako, as evidenced by Belani.

Belani discloses a polymeric insulation layer etching process and composition comprising:

an etching solution comprising an organic solvent and a base (col. 8, lines 41-47) [claims 4 and 12] to etch;

where the organic solvent is selected from a monohydric alcohol, a dihydric alcohol, a monoether, a diether, a polar aprotic solvent, and combinations thereof (col. 8, lines 41-47) [claims 6 and 14] to etch;

where the base is selected from ammonium hydroxide, cesium hydroxide, potassium hydroxide, sodium hydroxide, and combinations thereof (col. 8, lines 41-47) [claims 7 and 15] to etch;

where the base is selected from phosphazene, tetraalkyl ammonium hydroxides, and combinations thereof (col. 8, lines 41-47) [claims 8 and 16] to etch.

Given the teaching of Belani, a person having ordinary skills in the art at the time of the invention would have readily recognized the advantages and desirability of modifying Lansford in view of Amako by employing the well known and conventional features of etch solution, such as disclosed by Belani, in order to etch after development.

10. Claims 5 and 13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lansford in view of Amako as and Belani as applied to claims 4 and 12, and further in view of Birdsley et al. (US Patent No. 6,428,718 and Birdsley hereinafter).

Although Lansford in view of Amako and further in view of Belani discloses substantial features of the invention (see paragraphs above), it fails to disclose:

where the etching solution contains no more than 25% water based on the weight of the etching solution [claims 5 and 13].

Nonetheless, this feature is well known and would have been an obvious modification of the method disclosed by Lansford in view of Amako and further in view of Belani, as evidenced by Birdsley.

Birdsley discloses a selective back side wet etch comprising:

where the etching solution contains no more than 25% water based on the weight of the etching solution (col. 4, lines 11-13) [claims 5 and 13].

Given the teaching Birdsley, a person having ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Lansford in view of Amako and further in view of Belani by employing the well known or conventional features of etching solution, in order to etch silicon without damaging the circuitry or substrate in the device.

11. Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lansford in view of Amako as applied to claims 1 and 2, and further in view of Bierhenke (US Patent No. 4,405,707).

Although Lansford view of Amako discloses substantial features of the invention (see paragraphs above), it fails to disclose:

where the solvent is a monohydric alcohol selected from the group consisting of methanol, ethanol, n-propanol, isopropanol, n-butanol, isobutanol, tea-butanol, and combinations thereof [claims 9 and 17].

Nonetheless, this feature is well know in the art and would have been an obvious modification of the method disclosed by Lansford in view of Amako, as evidenced by Bierhenke.

Bierhenke discloses a method of producing relief structures for integrated semiconductor circuits comprising:

where the solvent is a monohydric alcohol selected from the group consisting of methanol, ethanol, n-propanol, isopropanol, n-butanol, isobutanol, tea-butanol, and combinations thereof (col. 4, lines 57-60) [claims 9 and 17].

Given the teaching of Bierhenke, a person having ordinary skills in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Lansford in view of Amako by employing the well known and conventional features of development, such as disclosed by Bierhenke, in order to develop the photoresist after exposure to irradiation.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ming Hung Hung whose telephone number is (571)270-3832. The examiner can normally be reached on Monday through Friday 7:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on (571)272-2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ming Hung Hung/
Examiner, Art Unit 4158

/UYEN-CHAU N LE/
Primary Examiner, Art Unit 4158